

In the Claims:

1. (Currently Amended.) A method for treating a well penetrating a subterranean formation, comprising introducing into the well a ~~proppant/sand control particulate of a~~ selectively configured porous particulate material wherein the porous particulate material of the selectively configured porous particulate material is a porous ceramic having an internal porosity from about 10 to about 75 volume percent and wherein the apparent specific gravity of the selectively configured porous particulate material is less than the apparent specific gravity of the porous ceramic.

2. (Cancelled.)

3. (Currently amended.)) A The method of Claim 1, for treating a well penetrating a subterranean formation, comprising introducing into the well a porous particulate selected from the group consisting of natural ceramic materials, polyolefins, styrene-divinylbenzene copolymers and polyalkylacrylate esters wherein the porous particulate material is a non-selectively configured porous particulate material.

4. (Currently amended.) The method of Claim 2 3, wherein the porous particulate is a selectively configured porous particulate material ~~comprises a porous particulate material which has been chemically treated and further wherein the apparent specific gravity of the selectively configured porous particulate material is less than the apparent specific gravity of the porous particulate material.~~

5. (Currently amended.) The method of Claim 1, wherein the porous ~~particulate material~~ ceramic is a relatively lightweight and/or substantially neutrally buoyant particle.

6. (Currently amended.) The method of Claim 1, wherein the selectively configured porous particulate material exhibits crush resistance under conditions as high as 10,000 psi closure stress.

7. (Currently amended.) The method of Claim 6, wherein the selectively configured porous particulate material exhibits crush resistance under conditions from about 250 to about 8,000 psi closure stress.

8. (Currently amended.) The method of Claim 2 1, wherein the selectively configured porous particulate material is ~~a suspension of a porous particulate~~ suspended in a carrier fluid.

9. (Currently amended.) The method of Claim 8 1, wherein the porous ~~particulate material~~ ceramic has a porosity and permeability such that a fluid may be drawn at least partially into the its porous matrix by capillary action.

10. (Currently amended.) The method of Claim 8 1, wherein the porous ~~particulate material~~ ceramic has a porosity and permeability such that a penetrating material may be drawn at least partially into the its porous matrix using a vacuum and/or may be forced at least partially into the its porous matrix under pressure.

11. (Currently amended.) The method of Claim 8 1, wherein the ~~porous particulate material is a~~ selectively configured porous particulate material is a porous ceramic coated or penetrated with a liquid resin, plastic, cement, sealant, or binder.

12. (Currently amended.) The method of Claim 2 1, wherein the ~~porous particulate material is a~~ selectively configured porous particulate material is a porous ceramic coated or penetrated with a phenol, phenol formaldehyde, melamine formaldehyde, urethane, or epoxy resin.

13. (Currently amended.) The method of Claim 2 1, wherein the ~~porous particulate material is a~~ selectively configured porous particulate material is a porous ceramic penetrated with nylon, polyethylene or polystyrene or a combination thereof.

14. (Currently amended.) The method of Claim 11, wherein the penetrating material and/or coating layer of the selectively configured porous particulate material is capable of trapping or encapsulating a fluid having a an apparent specific gravity less than the apparent specific gravity of the matrix of the porous ceramic.
15. (Original.) The method of Claim 14, wherein the fluid is a gas.
16. (Currently amended.) The method of Claim 8 1, wherein the ~~coating layer or penetrating material of the~~ selectively configured porous particulate material has a coating layer or penetrating material which is a liquid having an apparent specific gravity less than the apparent specific gravity of the matrix of the porous ~~particulate material ceramic~~.
17. (Currently amended.) The method of Claim 2 1, wherein a ~~coating layer or penetrating material of~~ the selectively configured porous particulate material comprises a multitude of coated porous ceramic particulates bonded together and coated or penetrated with is a curable resin and further wherein the selectively configured porous ~~particulate material comprises a multitude of coated particulates bonded together~~.
18. (Previously presented) A method for treating a well penetrating a subterranean formation, comprising introducing into the well a proppant of a selectively configured porous particulate material, the selectively configured porous particulate material being a porous particulate material manufactured with a glazing material or treated with a penetrating layer, coating layer or glazing material such that the strength of the selectively configured porous particulate material is greater than the strength of the porous particulate material.
19. (Currently amended.) A method for treating a well penetrating a subterranean formation, comprising introducing into the well a proppant of a selectively configured porous particulate material in a non-gelled carrier fluid, the selectively configured porous particulate material being a substantially neutrally buoyant particulate

material comprising a composite of a porous particulate material and a non-porous glazing material or a porous particulate material treated with a penetrating material, coating layer or glazing layer such that the porous particulate of the selectively configured porous particulate material is at least partially filled with air or a gas.

20. (Original.) The method of Claim 19, wherein the non-gelled carrier fluid contains a friction reducer.

21. (Original.) The method of Claim 19, wherein the apparent specific gravity of the selectively configured porous particulate material is less than the apparent specific gravity of the porous particulate material.

22. (Original.) The method of Claim 19, wherein the well is horizontal or is a deviated well having an angle with respect to the vertical of between about 0 degrees and about 90 degrees.

23. (Original.) The method of Claim 22, wherein the well is a deviated well having an angle with respect to the vertical of between about 30 degrees and about 90 degrees.

24. (Currently amended.) The method of Claim 1, wherein the porous ~~particulate material~~ ceramic has a maximum length-based aspect ratio of equal to or less than about 5.

25. (Currently amended.) The method of Claim ~~1~~, ~~wherein the porous particulate material is a ceramic or organic polymeric material~~ 18, wherein the glazing material, penetrating layer or coating layer is non-porous.

26. (Currently amended.) The method of Claim ~~25~~ 4, wherein the ~~porous particulate material is a ceramic~~ apparent specific gravity of the selectively

configured porous particulate material is less than the apparent specific gravity of the porous particulate material

27. (Currently amended.) The method of Claim 26 3, wherein the porous particulate organic polymeric material is a polyolefin.

28. (Currently amended.) The method of Claim 42 11, wherein the coating layer or penetrating material is an ethyl carbamate-based resin.

29. (Currently amended.) The method of Claim 26 1, wherein the ~~porous particulate material is a~~ selectively configured porous particulate material ~~having~~ has an apparent density from about 1.1 g/cm³ to about 2.6 g/cm³, and a bulk apparent density from about 1.03 g/cm³ to about 1.4 g/cm³ and an internal porosity from about 10% to about 75 volume percent.

30. (Cancelled.)

31. (Currently amended.) The method of Claim 2 1, wherein the size of the selectively configured porous particulate material is between from about 200 mesh to about 8 mesh.

32. (Currently amended.) The method of Claim 2 1, wherein the selectively configured porous particulate has a coating layer or penetrating material ~~is present in the selectively configured porous particulate material~~ in an amount of from about 0.5 to about 10% by weight of total weight.

33. (Original.) The method of Claim 32, wherein the thickness of the coating layer of the selectively configured porous particulate material is from about 1 to about 5 microns.

34. (Currently amended) The method of Claim 2 1, wherein the selectively configured porous particulate material is introduced or pumped into the well as neutrally buoyant particles in a carrier fluid.
35. (Original.) The method of Claim 34, wherein the carrier fluid is a completion or workover brine.
36. (Original.) The method of Claim 34, wherein the carrier fluid is salt water, fresh water, a liquid hydrocarbon, or a gas or a mixture thereof.
37. (Original.) The method of Claim 36, wherein the gas is nitrogen or carbon dioxide.
38. (Original.) The method of Claim 34, wherein the fluid pumped into the well further comprises a gelling agent, crosslinking agent, gel breaker, surfactant, foaming agent, demulsifier, buffer, clay stabilizer, acid or a mixture thereof.
39. (Currently amended.) The method of Claim 2 1, wherein the permeability of the selectively configured porous particulate material is a proppant/sand control particulateless than the permeability of the porous ~~particulate material~~ ceramic.
40. (Currently amended.) The method of Claim 1, wherein the selectively configured porous particulate material is introduced into the well with a liquefied gas or foamed gas carrier fluid or a mixture thereof.
41. (Original.) The method of Claim 40, wherein the liquefied gas or foamed gas carrier fluid is a liquid carbon dioxide based system.
42. (Original.) The method of Claim 40, wherein the liquefied gas or foamed gas carrier fluid is nitrogen.

43. (Original.) The method of Claim 40, wherein the liquefied gas or foamed gas carrier fluid is a mixture of liquid carbon dioxide and nitrogen.

44. (Original.) The method of Claim 40, wherein the liquefied gas or foamed gas carrier fluid is a foam of nitrogen in liquid carbon dioxide.

45. (Currently amended.) A method for treating a well penetrating a subterranean formation, comprising introducing into the well a proppant/sand control particulate of a selectively configured porous particulate material, the selectively configured porous particulate material being a porous particulate material manufactured with a non-porous glazing material or treated with a non-porous penetrating layer, coating layer or glazing material such that either:

(a.)—the apparent density or apparent specific gravity of the selectively configured porous particulate material is less than the apparent density or apparent specific gravity of the porous particulate material;

~~(b.)—the permeability of the selectively configured porous particulate material is less than the permeability of the porous particulate material; or~~

~~(c.)—the porosity of the selectively configured porous particulate material is less than the porosity of the porous particulate material.~~

46. (Original.) The method of Claim 45, wherein the selectively configured porous particulate material is a suspension of the porous particulate material and a porous matrix, and further wherein the suspension, when introduced into the well, forms a fluid-permeable gravel pack in an annular area defined between the exterior of a screen assembly and the interior of the wellbore.

47. (Original.) The method of Claim 45, wherein the selectively configured porous particulate material is a porous particulate material having a glazed surface.

48. (Original.) The method of Claim 47, wherein the glazed surface of the porous particulate material enhances the ease of multi-phase fluid flow through a particulate pack.

49. (Original.) The method of Claim 47, wherein the glazed surface of the porous particulate material enhances the ease of high rate turbulent gas flow through a particulate pack.

50. (Currently amended.) The method of Claim 5, wherein the porous ~~particulate material~~ ceramic is a substantially neutrally buoyant particle and is introduced or pumped into the well as a suspension in a storage fluid wherein the density of the storage fluid and porous ~~particulate material~~ ceramic is of near or substantially equal density.

51. (Currently amended) A ~~The method for treating a well penetrating a subterranean formation, comprising introducing into the well a~~ of Claim 3, wherein the porous particulate material having a porosity and permeability of the porous particulate is such that a fluid may be drawn at least partially into the porous matrix by capillary action.

52. (Cancelled)

53. (Cancelled)

54. (Currently amended) The method of Claim 52 64, wherein the ~~selectively configured porous particulate material comprises a porous particulate material which has been chemically treated and further wherein~~ the apparent specific gravity of the selectively configured porous particulate material is less than the apparent specific gravity of the porous particulate material.

55. (Currently amended) The method of Claim ~~51~~ 64, wherein the porous particulate material is a relatively lightweight and/or substantially neutrally buoyant particle.
56. (Cancelled)
57. (Currently amended) The method of Claim ~~51~~ 3, wherein the porous particulate material is a suspension of a the porous particulate in a carrier fluid.
58. (Currently amended) The method of Claim ~~52~~ 64, wherein the ~~porous particulate material is a~~ selectively configured porous particulate material comprises a porous particulate material coated or penetrated with a liquid resin, plastic, cement, sealant, or binder.
59. (Currently amended) The method of Claim ~~52~~ 58, wherein the ~~liquid resin, plastic, cement, sealer, or binder porous particulate material is a selectively configured porous particulate material coated or penetrated with~~ is selected from the group consisting of a phenol, phenol formaldehyde, melamine formaldehyde, urethane, or epoxy resin resin, nylon, polyethylene or polystyrene or a combination thereof.
60. (Cancelled)
61. (Cancelled)
62. (Currently amended) The method of Claim ~~52~~ 58, wherein the ~~coating layer or penetrating material of the selectively configured porous particulate material~~ liquid resin is a curable resin and further wherein the selectively configured porous particulate material comprises a multitude of coated particulates bonded together.
63. (Previously presented) A method for treating a well penetrating a subterranean formation, comprising introducing into the well a selectively configured

porous particulate material, wherein the selectively configured porous particulate material is a porous particulate material treated with a penetrating layer, coating layer or glazing material wherein the porosity of the selectively configured porous particulate material is less than the porosity of the porous particulate material.

64. (New) A method for treating a well penetrating a subterranean formation, comprising introducing into the well a selectively configured porous particulate material, wherein the selectively configured porous particulate material is a porous particulate material treated with a penetrating or coating layer wherein the penetrating or coating layer penetrates the porous particulate and encapsulates air within the pores of the particulate.

65. (New.) The method of Claim 3, wherein the porous particulate material is introduced into the well with a liquefied gas or foamed gas carrier fluid or a mixture thereof.

66. (New.) The method of Claim 65, wherein the liquefied gas or foamed gas carrier fluid is a liquid carbon dioxide based system.

67. (New.) The method of Claim 65, wherein the liquefied gas or foamed gas carrier fluid is nitrogen.

68. (New.) The method of Claim 66, wherein the liquefied gas or foamed gas carrier fluid is a mixture of liquid carbon dioxide and nitrogen.

69. (New.) The method of Claim 4, wherein the selectively configured porous particulate material exhibits crush resistance under conditions as high as 10,000 psi closure stress.

70. (New.) The method of Claim 3, wherein the selectively configured porous particulate material is a porous particulate coated or penetrated with a liquid resin, plastic, cement, sealant, or binder.

71. (New.) The method of Claim 3, wherein the natural ceramic is a lightweight volcanic rock

72. (New.) The method of Claim 71, wherein the lightweight volcanic rock is selected from the group consisting of pumice, perlite, Hawaiian basalt, Virginia diabase and Utah rhyolite.